Electronic Version
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Claims

[c1] 1. An omni directional antenna, comprising:
a substrate, the substrate comprising a radiation portion and a power feed portion, wherein a surface of the substrate defines a plane;
a plurality of radiating elements coupled to the radiation portion of the substrate;
at least one power dissipation element coupled to the power feed portion of the substrate;
a power feed coupled to the plurality of radiating elements; and
a ground coupled to the at least one power dissipation element, such that the at least one power dissipation element reduces an impact of the power feed on a radiation pattern of the omni directional.

[c2] 2. The omni directional antenna according to claim 1, wherein the substrate comprises a printed circuit board.

[c3] 3. The omni directional antenna according to claim 1, wherein the plurality of radiating elements comprise a corresponding plurality of lengths.

[c4] 4. The omni directional antenna according to claim 3,

wherein at least two of the corresponding plurality of lengths are identical.

[c5] 5. The omni directional antenna according to claim 3, wherein at least two of the corresponding plurality of lengths are different.

[c6] 6. The omni directional antenna according to claim 1, wherein the plurality of radiating elements correspond to the number of the at least one power dissipation elements.

[c7] 7. The omni directional antenna according to claim 1, wherein the power feed comprises a conductor of a coaxial cable and the ground comprises a jacket of the coaxial cable.

[c8] 8. The omni directional antenna according to claim 7, wherein the jacket of the coaxial cable is coupled to the at least one power dissipation element along a length thereof.

[c9] 9. The omni directional antenna according to claim 1, wherein the plurality of radiating elements comprises two radiating elements.

[c10] 10. The omni directional antenna according to claim 9, wherein the two radiating elements have different

lengths.

[c11] 11. The omni directional antenna according to claim 1, wherein the at least one power dissipation element comprises three power dissipation elements.

[c12] 12. The omni directional antenna according to claim 11, wherein at least one of the three power dissipation elements has a different length than at least one of the other two power dissipation elements.

[c13] 13. The omni directional antenna according to claim 8, wherein the at least one power dissipation element comprises three power dissipation elements.

[c14] 14. The omni directional antenna according to claim 1, wherein the plurality of radiating elements reside in a plane substantially parallel to the plane defined by the substrate.

[c15] 15. An omni directional antenna, comprising:
a radiation portion;
a power feed portion coupled to the radiation portion;
the radiation portion comprising a plurality of radiating elements, wherein each of the plurality of radiating elements are arranged in a face-to-face configuration;
the power feed portion comprising a plurality of power dissipation elements, wherein each of the plurality of

power dissipation elements are arranged in the face-to-face configuration;

a power feed coupled to the radiation portion; and

a ground coupled to the plurality of power dissipation elements, such that the plurality of power dissipation elements reduce an impact of the power feed on a radiation pattern of the omni directional antenna.

[c16] 16. The omni directional antenna according to claim 15, wherein the plurality of radiating elements are separated by at least one distance.

[c17] 17. The omni directional antenna according to claim 15, wherein at the plurality of radiating elements comprise a corresponding plurality of lengths.

[c18] 18. The omni directional antenna according to claim 17, wherein at least one of the plurality of lengths is identical to another of the plurality of lengths.

[c19] 19. The omni directional antenna according to claim 17, wherein at least one of the plurality of lengths is different to another of the plurality of lengths.

[c20] 20. The omni directional antenna according to claim 15, wherein the power feed a conductor of a coaxial cable and the ground is an outer jacket of the coaxial cable.

[c21] 21. The omni directional antenna according to claim 20, wherein the coupling between the radiation portion and the power feed portion comprises the coaxial cable.

[c22] 22. The omni directional antenna according to claim 15, wherein the coupling between the radiation portion and the power feed portion comprises at least one non-conducting post.

[c23] 23. The omni directional antenna according to claim 15, wherein the face-to-face configuration arranges the plurality of radiating elements and the plurality of power dissipation elements in a substantially parallel arrangement.

[c24] 24. The omni directional antenna according to claim 15, wherein the plurality of radiating elements comprise two radiating elements.

[c25] 25. The omni directional antenna according to claim 24, wherein the two radiating elements converge.

[c26] 26. The omni directional antenna according to claim 24, wherein the two radiating elements diverge.

[c27] 27. An omni directional antenna, comprising:
a substrate, the substrate comprising a radiation portion and a power feed portion, wherein a surface of the sub-

strate defines a shape other than a plane;

a plurality of radiating elements coupled to the radiation portion of the substrate;

at least one power dissipation element coupled to the power feed portion of the substrate;

a power feed coupled to the plurality of radiating elements; and

a ground coupled to the at least one power dissipation element, such that the at least one power dissipation element reduces an impact of the power feed on a radiation pattern of the omni directional antenna.

[c28] 28. The omni directional antenna according to claim 27, wherein the substrate is formed of a flexible material.

[c29] 29. The omni directional antenna according to claim 27, wherein the substrate is formed of a non-flexible material.

[c30] 30. The omni directional antenna according to claim 29, wherein the non-flexible material is printed circuit board material.

[c31] 31. The omni directional antenna according to claim 30, wherein the printed circuit board material is molded using an injection mold.

[c32] 32. The omni directional antenna according to claim 27,

wherein the power feed comprises a conductor of a coaxial cable and the ground comprises an outer jacket of the coaxial cable.